

## STANDARD INFORMATION

**Amendment 2:** See updated Effective date in green below

**Amendment 1:** See updated Effective date in blue below

**This SUN contains changes for January 1, 2017, December 1, 2018 (Update No. 1) and establishes partial superseding of CSA 6.19 for residential devices and introduces ULC S588 for commercial and industrial applications as the superseding Standard.**

**Standard Number:** CSA 6.19

**Standard Name:** Residential Carbon Monoxide Alarming Devices

**Standard Edition and Issue Date:** 2<sup>nd</sup> Edition Dated January 1, 2017

**Date of Revision:** December 1, 2018

**Date of Previous Revision of Standard:** January 1, 2016

**Superseding Standard Number:** ULC S588

**Superseding Standard Name:** Standard for Gas and Vapour Detectors and Sensors, Including Accessories

## EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

**Effective Date:** ~~May 28, 2021~~ ~~July 7, 2023~~ **June 30, 2024**

## IMPACT, OVERVIEW, AND ACTION REQUIRED

**Impact Statement:** A review of all Listing Reports is necessary to determine which products comply with new/revised requirements and which products will require re-evaluation. **NOTE:** Effective immediately, this revised standard will be exclusively used for evaluation of new products unless the Applicant requests in writing that current requirements be used along with their understanding that their listings will be withdrawn on Effective Date noted above, unless the product is found to comply with new/revised requirements.

ULC Published the First Edition of CAN/ULC S588, the Standard for Gas and Vapour Detectors and Sensors, Including Accessories in April 2017. Previously, both CO Alarms and CO Detectors were evaluated to CSA 6.19. **Intertek will not re-certify existing CO Detectors to CSA 6.19. Manufacturers interested in maintaining certification to their CO Detectors will need to submit their products for evaluation to ULC S588 prior to the effective date.**

Products still under the scope of CSA 6.19 need to comply with the revised standard by the effective date.

**Overview of Changes:** Addition of requirements for Enclosures made of polymeric material. Specific details of new/revised requirements are found in table below.

***Current Listings Not Active? – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records. We will do this at no charge as long as Intertek is notified in writing prior to the review of your reports.***



## STANDARD INFORMATION

CLAUSE	VERDICT	COMMENT
		The follow changes reflect the changes between CSA 6.19 1 <sup>st</sup> edition and 2 <sup>nd</sup> edition
		<b>Replacement date</b>
4.7		<p>As an alternative <del>In addition</del> to the (permanent marking) replacement date, the device shall be equipped with an audible end-of-life signal, <del>the same as</del> <u>differing from</u> the audible alarm and audible trouble signals, based on the manufacturer's declared lifetime (see Clause 4.6).</p>
		<i>New clause added;</i>
		<b>End-of-life signal</b>
		<p>An audible signal, differing from the audible alarm and audible trouble signals, intended to indicate that the device has reached the end of its useful life and should be replaced. The end-of-life signal shall repeat once every 30 to 60 s <math>\pm</math> 10%. This signal shall be triggered either by an internal timer or by a self-diagnostic test(s):</p>
4.8		<p>a) For a device that employs a signal generated by an internal timer: once maximum specified lifetime is reached, the end-of-life signal shall be initiated. The timer may be reset repeatedly, for a period not exceeding 72 h for each period of reset, if self-diagnostic test(s) indicate that the device still meets the requirements of this Standard. The timer shall not be able to be reset after 30 days following the initial end-of-life signal.</p> <p>b) For a device that employs a signal generated by a self-diagnostic test: once this test has determined the device no longer meets the requirements of this Standard, the end-of-life signal shall be initiated.</p> <p>c) If the sensor is automatically and periodically tested for response to CO (or an equivalent gas), the device's specified lifetime calculations may exclude the sensor component.</p>
5.4.2.1		<p><del>The use of a secondary power supply is optional.</del> When a permanently wired electrical power source is the primary power supply, a secondary power supply shall be used. <del>If a</del> <u>A</u> secondary power supply, such as a battery, <del>is provided,</del> it should have the capacity to supply the maximum intended power to the device for 8 h in the standby condition and thereafter be able to operate the device for an alarm signal for at least 12 h continuously.</p>



CLAUSE	VERDICT	COMMENT
6	Info	<b>Markings</b>
6.1.2		<p>a) <del>“Replace by”</del> <u>“REPLACE BY”</u></p> <p>b) <del>“Alarm”</del> <u>“ALARM”</u> (description of alarm signal, eg, 4 beeps) - <del>“Move to fresh air; call 911”</del> <u>“MOVE TO FRESH AIR; CALL 911”</u> and <del>“Service”</del> <u>“SERVICE”</u> - (description of trouble signal, eg, one beep) - <del>“See owner’s manual”</del> <u>“SEE OWNERS MANUAL”</u>.</p> <p>c) <del>“Do Not Paint”</del> <u>“DO NOT PAINT”</u></p> <p><del>“Additional markings on back”</del> <u>“ADDITION MARKINGS ON BACK”</u> or for an ac-operated device intended for permanent installation (hard-wired), the word <u>“CAUTION”</u> in letters 3.2 mm (1/8 in) high and the following: <del>“Additional markings on back. Disconnect power”</del> <u>“ADDITIONAL MARKINGS ON BACK. DISSCONNECT POWER”</u>.</p>
6.1.3		<p>i) The following warning of Class IIIC marking material: <del>“WARNING Carbon monoxide cannot be seen or smelled but it can kill you.”</del> <u>“WARNING: CARBON MONOXIDE CANNOT BE SEEN OR SMELLED BUT IT CAN KILL YOU”</u>.</p> <p>j) <del>“Use only batteries specified in marking. Use of a different battery may have a detrimental effect on device operation”</del> <u>“USE ONLY BATTERIES SPECIFIED IN MARKING. USE OF A DIFFERENT BATTERY CAN HAVE A DETRIMENTAL EFFECT ON DEVICE OPERATION”</u>.</p> <p>m) For an ac-operated plug-in device <del>without a standby battery</del>: <u>“WARNING”</u> and <u>“DO NOT INSTALL DEVICE IN A WALL SWITCH CONTROLLED ELECTRICAL OUTLET”</u>. The letter height shall be a minimum of 3.2 mm (1/8 in).</p>
6.1.6		<p>With regard to the requirement in Clause 4.4.2, a warning flag, a hinged cover as specified in Clauses 4.4.1 and 4.4.2, or equivalent, shall be marked with the word <u>“WARNING”</u> and the following or equivalent text: <del>“Battery has been removed”</del> <u>“BATTERY HAS BEEN REMOVED”</u>. The letter height shall be a minimum of 9.5 mm (3/8 in).</p>
6.2		<p>b) <del>“Replacement date REPLACEMENT DATE (yyyy/mm)”</del> or <del>“Replacement date is (no. of months) after installation”</del> <u>“REPLACEMENT DATE IS (No. of months) AFTER INSTALLATION”</u>, as applicable (see Clause 3.7). The month date shall be indicated in letters, using 3 characters or more. The letter height shall be a minimum of 1 /8 in (3.2 mm).</p> <p>c) <del>“This device is designed to protect individuals from the acute effects of carbon monoxide exposure. It will not fully safeguard individuals with specific medical conditions. If in doubt consult a medical practitioner.”</del> <u>“THIS DEVICE IS DESIGNED TO PROTECT INDIVIDUALS FROM THE ACUTE EFFECTS OF CARBON MONOXIDE (CO) EXPOSURE. IT WILL NOT FULLY SAFEGUARD INDIVIDUALS WITH SPECIFIC MEDICAL CONDITIONS. IF CONCERNED CONSULT A MEDICAL PRACTITIONER”</u>.</p>



CLAUSE	VERDICT	COMMENT
7	Info	<b>Instructions</b>
7 d)		<p>(i) <del>"WARNING" "Actuation of this device indicates the presence of carbon monoxide (CO) which can KILL YOU. If alarm signal sounds (description of alarm signal, eg, four beeps):</del>  <del>(1) immediately move to fresh air – outdoors or by an open door or window. Check that all persons are accounted for. Do not re-enter the premises or move away from the open door/window until the emergency services responders have arrived, the premises have been aired out, and your alarm remains in its normal condition;</del>  <del>(2) call your emergency local service (telephone number) (fire department or 911)"</del>  <u>ACTUATION OF THIS DEVICE INDICATES THE PRESENCE OF CARBON MONOXIDE (CO) WHICH CAN KILL YOU. IF ALARM SIGNAL SOUNDS (description of alarm signal, e.g., four beeps):</u>  <u>1) IMMEDIATELY MOVE TO FRESH AIR — OUTDOORS OR BY AN OPEN DOOR OR WINDOW. CHECK THAT ALL PERSONS ARE ACCOUNTED FOR. DO NOT RE-ENTER THE PREMISES OR MOVE AWAY FROM THE OPEN DOOR/WINDOW UNTIL THE EMERGENCY SERVICES RESPONDERS HAVE ARRIVED, THE PREMISES HAVE BEEN AIRED OUT, AND YOUR ALARM RETURNS TO ITS NORMAL CONDITION.</u>  <u>2) CALL YOUR EMERGENCY LOCAL SERVICE (telephone number) (fire department or 911)".</u></p> <p>(ii) <del>If "service" signal sounds</del> <u>IF SERVICE SIGNAL SOUNDS</u> (description of trouble signal eg, one beep):          (manufacturer shall provide appropriate description of actions to take);</p>
7 f)		<p><del>"This carbon monoxide alarming device is designed to detect carbon monoxide gas from ANY source of combustion. It is NOT designed to detect smoke, fire, or any other gases"; THIS CARBON MONOXIDE ALARMING DEVICE IS DESIGNED TO DETECT CARBON MONOXIDE GAS FROM ANY SOURCE OF COMBUSTION. IT IS NOT DESIGNED TO DETECT SMOKE, FIRE, OR ANY OTHER GASES.</del></p> <p><u>the following wording: "The following symptoms may be related to CARBON MONOXIDE POISONING and should be discussed with ALL members of the household:</u></p> <p><b><u>Mild exposure:</u></b> <del>Headaches, running nose, sore eyes, often described as "flu" like symptoms;</del></p> <p><b><u>Medium exposure:</u></b> <del>Dizziness, drowsiness, vomiting;</del></p> <p><b><u>Extreme Exposure:</u></b> <del>Unconsciousness, brain damage, death.</del></p> <p><del>Many cases of reported CARBON MONOXIDE POISONING indicate that while victims are aware they are not well, they become so disoriented they are unable to save themselves by either exiting the building or calling for assistance";</del></p> <p><u>THE FOLLOWING SYMPTOMS MIGHT BE RELATED TO CARBON MONOXIDE POISONING AND SHOULD BE DISCUSSED WITH ALL MEMBERS OF THE HOUSEHOLD:</u></p>
7 k)		<p><del>the following wording: "The following symptoms may be related to CARBON MONOXIDE POISONING and should be discussed with ALL members of the household:</del></p> <p><b><u>Mild exposure:</u></b> <del>Headaches, running nose, sore eyes, often described as "flu" like symptoms;</del></p> <p><b><u>Medium exposure:</u></b> <del>Dizziness, drowsiness, vomiting;</del></p> <p><b><u>Extreme Exposure:</u></b> <del>Unconsciousness, brain damage, death.</del></p> <p><del>Many cases of reported CARBON MONOXIDE POISONING indicate that while victims are aware they are not well, they become so disoriented they are unable to save themselves by either exiting the building or calling for assistance";</del></p> <p><u>THE FOLLOWING SYMPTOMS MIGHT BE RELATED TO CARBON MONOXIDE POISONING AND SHOULD BE DISCUSSED WITH ALL MEMBERS OF THE HOUSEHOLD:</u></p>



CLAUSE	VERDICT	COMMENT
		<p><b><u>MILD EXPOSURE:</u></b> HEADACHES, FATIGUE, DROWSINESS, SHORTNESS OF BREATH, “FLU”-LIKE SYMPTOMS (WITHOUT FEVER), AND IMPAIRED MOTOR FUNCTIONS (LIKE DIFFICULTY WALKING OR PROBLEMS WITH BALANCE);</p> <p><b><u>MEDIUM EXPOSURE:</u></b> DIZZINESS, NAUSEA AND VOMITING, CHEST PAIN, POOR VISION, DIFFICULTY THINKING;</p> <p><b><u>EXTREME EXPOSURE:</u></b> LOSS OF CONSCIOUSNESS, CONVULSIONS, COMA, AND DEATH.</p> <p><u>WHEN FLU-LIKE SYMPTOMS WITH FEVER ARE EXPERIENCED, ENSURE THAT THE POSSIBILITY OF CO POISONING IS NOT AUTOMATICALLY RULED OUT. MANY CASES OF REPORTED CARBON MONOXIDE POISONING INDICATE THAT WHILE VICTIMS ARE AWARE THEY ARE NOT WELL, THEY BECOME SO DISORIENTED THEY ARE UNABLE TO SAVE THEMSELVES BY EITHER EXITING THE BUILDING OR CALLING FOR ASSISTANCE.</u></p>
7 p)		<p>the word "WARNING" and the following or equivalent text: "<del>This product is intended for use in ordinary indoor residential areas. It is not designed to measure compliance with commercial and industrial standards.</del>"; <b><u>“THIS PRODUCT IS INTENDED FOR USE IN ORDINARY INDOOR RESIDENTIAL AREAS. IT IS NOT DESIGNED TO MEASURE COMPLIANCE WITH COMMERCIAL AND INDUSTRIAL STANDARDS”.</u></b></p>
7 q)		<p>the word "CAUTION" and the following or equivalent text: "<del>This device will only indicate the presence of carbon monoxide gas at the sensor. Carbon monoxide gas may be present in other areas.</del>"; <b><u>“THIS DEVICE WILL ONLY INDICATE THE PRESENCE OF CARBON MONOXIDE GAS AT THE SENSOR. CARBON MONOXIDE GAS MIGHT BE PRESENT IN OTHER AREAS”.</u></b></p>
7 r)		<p>the following text: "<del>This device is designed to protect individuals from the acute effects of carbon monoxide exposure. It will not fully safeguard individuals with specific medical conditions. If in doubt consult a medical practitioner.</del>"; <b><u>“THIS DEVICE IS DESIGNED TO PROTECT INDIVIDUALS FROM THE ACUTE EFFECTS OF CARBON MONOXIDE EXPOSURE. IT WILL NOT FULLY SAFEGUARD INDIVIDUALS WITH SPECIFIC MEDICAL CONDITIONS. IF IN DOUBT CONSULT A MEDICAL PRACTITIONER”.</u></b></p>
7 w)		<p><b><u>A statement specifying that the device should be located in an open and unobstructed area and shall not be located behind furniture, drapes, or any other object where it might not be seen or heard. A statement specifying that the alarm shall be heard from all sleeping areas.</u></b></p>
8.5	Info	<p><b>Sensitivity test</b></p> <p><i>New clause added;</i></p>
8.5.3.6		<p>The test chamber shall be purged with fresh air to remove all CO. The CO devices shall be reset, or the sensor replaced in accordance with the manufacturer’s instructions. The test chamber shall be sealed. The atmosphere within the chamber shall be mixed in a manner that ensures uniform CO concentration, temperature, and humidity. Conditions within the chamber shall be 23 ± 3 °C (73 ±</p>



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		37 °F), 50 ± 20% RH. The CO concentration shall be increased at a constant rate of 16 ± 1.6 ppm per minute for 30 min stabilizing at 480 ± 15 ppm. The devices shall produce an alarm signal after 19.0 min and before 30.0 min.
8.8	Info	<b>Stability tests</b>
		<u>Two sets of two</u> representative device samples shall be subjected to a series of tests as outlined in Clauses 8.5, 8.6, 8.7.2, 8.12, and 8.13:
8.8.2		a) <u>One set of the two</u> device samples shall be tested sequentially in the following order: Clauses 8.5, 8.6, 8.7.2, <del>8.8.1</del> , 8.12, and 8.13. The readings shall not in any case exceed the limits specified in Table 1, Part A ( <u>Carbon monoxide concentration and response time</u> ) and Part B ( <u>False alarm resistance specifications</u> ) except the 30 day test shall be conducted for 8 h. <u>The second set of two device samples shall be tested in accordance with Clause 8.5 [Table 1, Part B (False alarm resistance specifications)] 30 ppm CO for 30 days.</u>
		<i>New section added;</i>
8.34		<b>Electric shock current test</b>
		Electric shock current testing shall be performed in accordance to Section 66 of UL 2034.



CLAUSE	VERDICT	COMMENT
The follow changes reflect the December 1, 2018 (Update No. 1) revision		
5	Info	<b>Construction</b>
5.2	Info	<b>Enclosure</b>
5.2.4	Info	<b>Nonmetallic enclosures</b>
		<i>New clause added;</i>
		Enclosures made of polymeric material shall comply with the following requirements:
5.2.4.3		a) Enclosures containing parts presenting a risk of fire shall be made of a material having a minimum flammability rating of V-0 in accordance with CAN/CSA-C22.2 No. 0.17 and comply with the performance requirements of Clause 8.27.4 of this Standard.
		b) Enclosures containing Class 2 or Class 3 circuits with a voltage not exceeding 30 V ac, 42.4 V peak, or 60 V dc shall be made of a material having a minimum flammability rating of HB in accordance with CAN/CSA-C22.2 No. 0.17 and comply with the performance requirements of Clause 8.27.3 of this Standard.
		c) Enclosures containing circuits powered by batteries with energy limited to 15 W shall be made of a material having a minimum flammability rating of HB in accordance with CAN/CSA-C22.2 No. 0.17.